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ABSTRACT

Several environmental constructs which influence identity are measured by the Erwin Identity Scale (EIS) and delineated. The EIS is an objectively scored instrument designed to measure the student development concept of identity based on the conceptualizations of Chickering and Erikson. Three sub-scales (confidence, sexual identity, and conceptions about body and appearance) comprise the EIS. The EIS and environmental referents were administered to a sample of high school students and college freshmen. The college freshmen were randomly divided into two groups and retested at two points during their freshman year. The responses from the environmental referents were content analyzed and placed into various categories. Mean differences on the EIS sub-scales were studied among the various environmental categories using multivariate analysis of variance (MANOVA) designs. The impacts of the academic environment, particularly classroom experiences, and of the interpersonal campus environment were reflected by high or low scores on the EIS. In some instances, students who did not respond to the environmental referents had the highest identity scores. Students who felt most comfortable with their sense of self were the least affected by the college experience. (Author/RL)

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# Formulating Environmental Constructs Using Environmental Referents In Conjunction With The Erwin Identity Scale

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## Abstract

This study delineates several environmental constructs which influence identity as measured by the Erwin Identity Scale (EIS). The EIS and environmental referents were administered to a sample of high school students and college freshmen. Also, the college freshmen were randomly divided into two groups and retested at two points during their freshman year. The responses from the environmental referents were content analyzed and placed into various categories. Mean differences on the EIS sub-scales were studied among the various environmental categories using MANOVA designs. The impacts of the academic environment, particularly classroom experiences, and of the interpersonal campus environment were reflected by high and low scores on the EIS.

This study illustrates the use of environmental referents to help establish construct validity for the Erwin Identity Scale (EIS). The EIS is an objectively scored instrument designed to measure the student development concept of identity based on the conceptualizations of Arthur Chickering (1969) and Erik Erikson (1959,1968). These three sub-scales comprise the EIS: Confidence, Sexual Identity, and Conceptions About Body and Appearance. To provide further evidence of construct validity for the instrument, this study defines several environmental constructs which affect identity as measured by the EIS. A goal of construct validity is to identify events that influence a subject's performance on the instrument. This idea may be further explained within a Behavior-Person-Environment paradigm, namely, $B = f(P,E)$. The Person (P) component or identity in this study refers to a particular level or degree of development which the EIS measures. The environmental (E) component includes experiences which interact with identity to produce particular student behaviors (B). It is the delineation of the environmental component which this study discusses.

Environmental referents have generally been used with environmental assessment and ecosystem design in higher education. These referents furnish descriptions "of what is happening in the environment that produces their perception of it" (Aulepp and Delworth, 1976). These descriptions are then used as a basis for planning or redesigning the environment in which the student operates. The ecosystem, as with most environmental studies, considers the environmental component solely and not the developmental component. On the other hand, many person or developmental studies often do not consider the environmental component. Under the Behavior-Person-Environment framework the interaction of the person constructs and environmental constructs are studied. The linking of a developmental concept with an environmental referent provides a new methodology for gaining an understanding of person-environment interaction. In this study, students responded to the EIS which supplied the Person measures. In addition,

students were asked to supply what changes in the school environment produced changes in their identity. The procedure and method will be explained below.

## Method

### Subjects

The first group of subjects surveyed included a random sample of 169 freshmen surveyed during their summer orientation prior to fall enrollment, at the University of Iowa.

The second group of subjects involved 98 high school students attending a high school in the state of Iowa. The group proportionately represented grades 9 to 12 and both sexes.

### Instruments

The EIS is comprised of three sub-scales which are described below (Erwin, 1980):

1. Confidence. Confidence is an assuredness in one's self and in one's capabilities. Confidence includes a conscious self-reliance while recognizing the necessary dependence on out side sources. This recognition is an awareness and faith in one's own capabilities yet a realization that there are limits to these processes. The confident person has some understanding of his or her limitations. A self-confident individual feels comfortable about expressing beliefs, making decisions, and behaving competently, even though action may not be taken in these areas.

2. Sexual Identity. Sexual Identity is a clarification, understanding, and an acceptance of one's sexual feelings. The person with a high degree of sexual identity recognizes his or her sexual feelings as natural and normal. There is an absence of guilt because of their presence. Sexual identity includes not only a positive acceptance of one's sexual feelings but also a control of one's sexual feelings. For instance, a person's sexual feelings are overwhelming and do not interfere in interactions with other people. Moreover, sexual feelings are accepted as a normal part of close love relationships. This recognition and acceptance of sexual feelings does not imply sexual activity or a lack of it.

3. Conceptions About Body and Appearance. Identity also includes an accurate self-perception and acceptance of one's body and one's appearance. It is an issue of presentation of self. What do I think of my body? How do I conceive of myself and my appearance? An increasing acceptance of one's body particularly in relation to other epople is a necessary component. In addition, one's appearance and dress are resolved issues representing a "varied balancing of personal preferences, the desires of others, and situational expectations" (Chickering, 1969, p. 83). A person with a high degree of identity exhibits a personal dress style governed by individual tastes rather than the dictates or expectations of other people (e.g. peers, people in authority).

In summary, identity includes an assuredness in one's self and in one's capabilities, and an accurate self-perception and acceptance of one's sexual feelings and of one's body and appearance.

Environmental Referents

The following environmental referents were also used in this study. Referents 1-3 were administered to the college and high school students, and referent 4 was administered to only the college students.

1. What events or experiences at the University of Iowa might have made you feel more or less confident in yourself?
2. What events or experiences at the University of Iowa might have made changed your awareness of being a man or a woman?
3. What events or experiences at the University of Iowa might have changed your awareness of how you appear and how other people see you?
4. If you think you have answered this questionaire differently this time, what specific things at the University of Iowa might have changed the way you answered it?

Procedure

The college students were surveyed with the EIS at two time periods. The

pretest occurred during their summer orientation and the posttest during their freshman year. Based on their odd or even social security numbers, the college student sample was divided into two groups. The first half was re-surveyed during the middle of their first semester, and the second half was re-surveyed during the middle of their second semester. The four environmental referents were also administered during the retest periods. Fifty-five of these students were retested with the EIS in November 1977; 74 students were retested in March 1978. Overall, 129 or 76% of these students were not available on campus. The remaining 17% refused to participate in a retest.

The high school students were administered the EIS and the three environmental referents on one occasion. Responses to the environmental referents were categorized by their content. For the college freshmen, a distribution of EIS change scores, posttest minus pretest scores, are reported by retest group. MANOVA tests for differences on the EIS sub-scales among the various categories were calculated separately for college freshman retested during first semester, for college during second semester, and for high school students. For the college freshmen, one main effect and one interaction were tested for each series of response categories. Pre and post scores on each respective EIS sub-scale and a response category were also analyzed. Each main and interactive effect was separately for each retest groups and for each set of responses to an environmental referent.

A separate category for "no response" was included in each series of content categories. The hypothesis that students who spontaneously self-disclose their feelings about the school environment in the environmental referents do not have different identity scores than students who do not self-disclose through environmental referents was tested.

## Results

### Content Analysis

A content analysis of the responses to the environmental referents produced

several categories which are outlined below:

Referent 1. Events or experiences changing students' confidence.

a. more confident because of class performance,

b. more and less comfident because of class performance,

c. less confident because of class performance,

d. or, no response.

Referent 1. Events or experiences changing students' confidence.

a. more confident because of other people,

b. more and less confident because of other people,

c. less confident because of other people,

d. making one's own decisions,

e. or, no response.

Referent 2. Events or experiences changing student's awareness of being a man or a woman.

a. conversations.

b. experiences, interactions, or relationships,

c. or, no response.

Referent 3. Events or experiences changing student's awareness of how they appear and how other people see them.

a. superficial presentation,

b. fundamental presentation,

c. or, no response.

Referent 4. Events or experiences changing students' answers to the questionnaire upon second administration (for college student sample only).

a. no change

b. leaving parents or being on one's own,

c. becoming more tolerant or open-minded to other people,

d. or, no response.

Class Performance

The MANOVA summary tables for the first semester retest group, for the second semester retest group, and for the high school students is in Table 1. Appropriate ANOVA and Scheffe follow up analyses are in Tables 2, 3, and 4.

For the first retest group, college freshmen who had "no response" of the first environmental referent scored higher on Confidence than students who responded they were "more confident" and "less confident because of class performance" scored higher than students who were "less confident because of class performance" (Table 2). There were no mean differences among any group category for the college freshmen retested second semester or the high school students. Also no relationship between a group category and gain or less over time was found. Evidently, the brief introduction of one-half semester of college classwork produces differential feelings of confidence in students. An additional semester of classroom work does not produce differential feelings of confidence for the second retest group. Perhaps, an adjustment to the rigors of college coursework occurs after one and one-half semesters.

For the second retest group, students who did not respond or who stated "more confident because of class performance" scored higher on Sexual Identity than students who stated "more and less confident" and "less confident because of class performance" (Table 3). Students who felt confident about class performance after one and one-half semesters have a greater acceptance and feel more comfortable about their sexual feelings. College freshmen retested first semester and the high school students did not score differently on Sexual Identity for these groups of class performance. No relationship was found between gain or loss, post and pretest, and any group category.

For the first retest group, college freshmen who stated "less confident because of class performance" scored lower on Conceptions About Body and

Appearance than students who wrote "more confident" or "more and less confident because of class performance" (Table 4). There are no differences between these group categories for college freshmen retested second semester or for high school students. Also, no differences between gains or losses, posttest, minus pretest, was found among any of these group categories. After one-half semester, college freshmen who felt "less confident because of their class performance" had the least acceptance of their physical appearance.

Other People

The MANOVA summary tables for the first semester retest group, for the second semester retest group, and for the high school students are in Table 5. The appropriate ANOVA and Scheffe follow-up results are in Tables 6, 7, 8, 9, 10.

For the first retest group college freshmen who stated "more confident because of other people" or who had "no response" scored higher on Confidence than students who felt "more and less confident" and "less confident because of other people." Also, students who marked "less confident because of other people" had a drop from summer to fall compared to students in the other categories who gained in Confidence (Table 6). The initial impact of the interpersonal campus environment produces differential feelings of confidence in freshmen during their first one-half semester in college. No differences were found for students who had been at college one semester longer.

High school students who reported "more confident" or "more and less confident because of other people" scored higher on Confidence than students who felt "less confident because of other people" (Table 7). Overall, the interpersonal environment effects students' confidence in high school and at the beginning of college.

For the first retest group, students who reported "more confident because of other people" or who had "no response" scored highest on Sexual

Identity (Table 8). That is, students who felt the most comfortable with their sexual feelings reported other people gave them confidence during their first half semester in college.

For the second retest group, freshmen who reported "more and less confident because of other people" or "no response" scored higher than students who reported "more confident," "less confident," or "making one's own decisions" (Table 9). Students who reported mixed experiences with other people have a greater acceptance of their sexual feelings than students who reported other people made them solely more confident or solely less confident.

High school students who did not respond scored lowest on Sexual Identity (Table 10).

For the first retest group, college freshmen who reported "no response" scored higher on Conceptions About Body and Appearance than students who reported "more and less confident" or "less confident because of other people." Students who reported "no response" gained on Conceptions About Body and Appearance compared to students who reported "less confident because of other people" who had a loss on the sub-scale (Table 11).

For the second retest group, students who reported "no response" scored higher on Conceptions About Body and Appearance than students who reported "less confident because of other people." Students who reported "making one's own decisions" scored higher than students who reported "less confident because of other people." A pattern shows that students who felt "less confident because of other people" expressed the least acceptance of their physical presentation on the EIS. No differences among these categories were found for the high school students (Table 12).

Conversations and Experiences

The MANOVA summary tables for this content category are in Table 13. ANOVA and Scheffe tests are in Table 14.

No differences in Confidence were found among students who reported "conversations and experiences" for the college freshmen or high school students.

No differences on Sexual Identity were found among the category groups for the college freshmen.

High school students who reported "experiences and interactions" with other people increased their awareness of being a man or a woman scored the highest on Sexual Identity (Table 14). That is, students who reported interactions with others felt the most comfortable with sexual feelings.

No differences among the "conversations and experiences" groups were found on the Conceptions About Body and Appearance for the freshmen or high school students.

Superficial vs. Fundamental Presentation

No differences were found among the "superficial and fundamental presentation" groups for college freshmen or high school students on Confidence.

No differences were found on Sexual Identity among the "superficial and fundamental presentation" groups of college freshmen or high school students.

No differences among the "superficial and fundamental presentation" groups were found or the Conception About Body and Appearance for the college freshmen or high school students.

Change Over Time

MANOVA summary tables are presented in Table 15, and the ANOVA and Scheffe tests in Tables 16, 17, and 18.

For the first retest group, college freshmen who reported they had not answered the EIS differently scored higher on Confidence than students who reported "leaving their parents or hometown," "tolerance of other people," or "no response" (Table 16). Students who felt affected by recent campus events had a lesser degree of confidence.

No differences were found on Confidence for the second retest group of college freshmen.

For the first retest group, college freshmen who reported they did not answer the EIS differently scored higher on Sexual Identity than students who reported "leaving their parents or hometown," "more tolerant and open-minded of other people," or "no response" (Table 17). Students who felt more comfortable with their sexual feelings did not report any change in themselves over one-half semester.

For the second retest group, no differences on Sexual Identity were found.

For the first retest group, college freshmen who reported they had not answered the EIS differently scored the highest on Conceptions About Body and Appearance (Table 18). Moreover, no differences were found among the groups for the second retest group. This same pattern is evident for the other two sub-scales. Students who report no change score higher than students who report events influencing change. These students who feel they have not changed have the most confidence and feel the most comfortable about their sexual feelings and physical presentation.

## Summary

The impacts of the academic environment, particularly classroom experiences, and of the interpersonal campus environment were reflected by high or low scores on the EIS. For example, students who responded they were more confident because of class performance after one-half semester showed more confidence on the EIS than students who responded less confident because of class performance. Similar differences were found on all EIS sub-scales for both the academic environment and the interpersonal environment impacts. The environmental referents here provided a beginning methodology outlining the importance of these two environments. However, an objectively scored instrument needs to be developed to more consistently measure these two environmental impacts.

In some instances, students who did not respond to the environmental referents had the highest identity scores. This suggests several explanations. First, students with higher identity are not aware of impactful campus experiences. Because the EIS is primarily concerned with measuring self-awareness characteristics, this explanation would not appear to be logical. Second, these non-responding students may not have been impacted by a campus experience. These high identity students may be more adaptable to new experiences presented them than students with lower identity as measured by the EIS. This explanation is further supported by responses to the environmental referent exploring what change, if any took place over the freshman year. Students who reported no change acutally had not changed on the EIS and had the highest degree of identity as compared with students who reported a reason for their change. Students who feel most comfortable with their sense of self are the least affected by the college experience as defined in this study, and are accurate self-reporters of no change in themselves. This finding supports the self-

selection of most student service programming. Those students who feel most comfortable with themselves are aware of this fact. This would contradict the belief of some educators that certain outreach programs should be required of all students.

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Table 1

Class Performance

| Source | Roy's Maximum Root Criterion | O(s, m, n) |
|---|---|---|
| | Fall Retest Group MANOVA summary Table | |
| Class Performance | 0.6166 | (3, -0.5, 15.0)** |
| Time x Class Performance | 0.2213 | (3, -0.5, 15.0) |
| | Spring Semester Retest MANOVA Summary Table | |
| Class Performance | 0.3149 | (3, -0.5, 19.5)* |
| Time x Class Performance | 0.2327 | (3, -0.5, 19.5) |
| | High School Students MANOVA Summary Table | |
| Class Performance | 0.1458 | (3, 0, 35.5) |

**p<.01
*p<.05

Table 2

First Semester Retest College Freshmen
Class Performance -
Confidence

ANOVA Summary Table

| Source | df | SS | MS | F | P |
|---|---|---|---|---|---|
| Class Performance | 3 | 4320.7 | 1440.2 | 3.53 | 0.02* |
| Error | 34 | 13890.2 | 408.5 | | |
| Time x Class Performance | 3 | 94.6 | 31.6 | 0.64 | 0.59 |
| Error | 34 | 1672.7 | 49.1 | | |

Means
Confidence

| | Summer | Fall | Change | Summer & Fall |
|---|---|---|---|---|
| More confident because of class performance | 60.1 | 63.5 | 3.4 | 123.5 |
| More and less confident because of class performance | 63.5 | 66.9 | 3.5 | 130.4 |
| Less Confident because of class performance | 55.2 | 55.5 | 0.3 | 110.7 |
| No response | 71.3 | 76.0 | 4.6 | 147.3 |
| Sheffe's Test (p = .05) | 110.7 | 123.5 | 130.4 | 147.3 |

Table 3

Second Semester Retest College Freshmen
Class Performance-Sexual Identity

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Class Performance | 3 | 3776.3 | 1258.7 | 3.35 | 0.02* |
| Error | 43 | 16155.1 | 375.7 | | |
| Time x Class Performance | 3 | 179.7 | 59.2 | 0.62 | 0.60 |
| Error | 43 | 4183.2 | 97.2 | | |

Mean Sexual Identity

| | Summer | Spring | Change | Summer & Spring |
|---|---|---|---|---|
| More confident because of class performance | 87.6 | 85.2 | -2.4 | 172.9 |
| More and less confident because of class performance | 81.7 | 85.6 | 3.9 | 167.3 |
| Less confident because of class performance | 77.2 | 77.1 | -0.06 | 154.3 |
| No response | 87.8 | 87.2 | -1.3 | 175.0 |

Scheffe's Test (p = .05)

| | | | | |
|---|---|---|---|---|
| | 154.3 | 167.3 | 172.9 | 175.0 |

Table 4

First Semester Retest College Freshmen
Class Performance-Conceptions About
Body and Appearance

ANOVA Summary Table

| Source | df | SS | MS | F | P |
|---|---|---|---|---|---|
| Class Performance | 3 | 5641.9 | 1880.6 | 6.12 | 0.001*** |
| Error | 34 | 10449.1 | 307.3 | | |
| Time x Class Performance | 3 | 338.5 | 112.8 | 1.89 | 0.15 |
| Error | 34 | 2034.6 | 59.8 | | |

Means
Conceptions About Body and Appearance

| | Summer | Fall | Change | Summer & Fall |
|---|---|---|---|---|
| More confident because of class performance | 64.7 | 59.9 | -4.8 | 124.6 |
| More and less confident because of class performance | 65.8 | 83.3 | 2.1 | 126.6 |
| Less confident because of class performance | 55.6 | 47.4 | -2.8 | 103.0 |
| No response | 68.3 | 71.6 | 3.3 | 140.0 |

Scheffe's Test (p = .05)

| | | | | |
|---|---|---|---|---|
| | 103.0 | 124.6 | 126.6 | 140.0 |

Table 5

Other People

MANOVA Summary Table

| Source | Roy's Maximum Root Criterion | θ(s, m, n) |
|---|---|---|
| **Fall Semester Retest** | | |
| Other People | 0.5801 | (3, -0.5, 13.5)** |
| Time x Other People | 0.5415 | (3, -0.5, 13.5)** |
| **Spring Semester Retest** | | |
| Other People | 0.3069 | (3, 0, 22.0)* |
| Time x Other People | 0.2417 | (3, 0, 22.0)* |
| **High School Students** | | |
| Other People | 0.1448 | (3, -0.5, 36.5)* |

**p <.01
*p <.05

Table 6

First Semester Retest College Freshmen
Other People-Confidence

ANOVA Summary Table

| Source | df | SS | MS | F | P |
|---|---|---|---|---|---|
| Other People | 3 | 5229.2 | 1743.1 | 5.06 | 0.005** |
| Error | 31 | 10684.3 | 344.6 | | |
| Time x Other People | 3 | 260.2 | 86.7 | 2.83 | 0.05* |
| Error | 31 | 948.6 | 30.6 | | |

Means
Confidence

| | Summer | Fall | Change | Summer & Fall |
|---|---|---|---|---|
| More confident because of other people | 66.7 | 71.3 | 4.6 | 138.0 |
| More and less confident because of other people | 55.6 | 60.6 | 5.0 | 116.1 |
| Less confident because of other people | 57.6 | 55.1 | -2.5 | 112.8 |
| No response | 71.3 | 76.0 | 8.6 | 147.3 |

Scheffe's Test (p = .05)

| | | | | |
|---|---|---|---|---|
| | 112.8 | 116.1 | 138.0 | 147.3 |
| | -2.5 | 4.6 | 5.0 | 8.6 |

Table 7

High School Students
Other People-Confidence

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Other People | 3 | 698.5 | 232.8 | 2.73 | 0.04* |
| Error | 77 | 6579.3 | 85.4 | | |

Means
Confidence

| | |
|---|---|
| More comfident because of other people | 62.5 |
| More and less confident because of other people | 62.0 |
| Less confident becuase of other people | 52.7 |
| No response | 57.2 |

Scheffe's Test (p = .05)

| 52.7 | 57.2 | 62.0 | 62.5 |
|---|---|---|---|

Table 8

First Semester Retest College Freshmen
Other People-Sexual Identity

ANOVA Summary Table

| Source | df | SS | MS | F | P |
|---|---|---|---|---|---|
| Other People | 3 | 3134.1 | 1044.7 | 2.89 | 0.05* |
| Error | 31 | 11188.9 | 360.9 | | |
| Time x Other People | 3 | 546.4 | 182.1 | 2.42 | 0.08 |
| Error | 31 | 2337.2 | 75.4 | | |

Means
Sexual Identity

| | Summer | Fall | Change | Summer & Fall |
|---|---|---|---|---|
| More confident because of other people | 80.8 | 85.6 | 4.7 | 166.4 |
| More and less confident because of other people | 71.1 | 72.1 | 1.0 | 143.2 |
| Less confident vecause of other people | 79.5 | 74.7 | -4.8 | 154.1 |
| No response | 79.6 | 88.3 | 8.6 | 168.0 |

Scheffe's Test (p = .05)

| | | | |
|---|---|---|---|
| 143.2 | 154.1 | 166.4 | 168.0 |

Table 9

Second Semester Retest College Freshmen
Other People-Sexual Identity

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Other People | 4 | 5185.7 | 1296.4 | 2.96 | 0.02* |
| Error | 48 | 20997.6 | 437.4 | | |
| Time x Other People | 4 | 166.1 | 41.5 | 0.66 | 0.62 |
| Error | 48 | 3021.1 | 62.9 | | |

Means
Sexual Identity

| | Summer | Spring | Change | Summer & Spring |
|---|---|---|---|---|
| More confident because of other people | 77.9 | 76.2 | -1.7 | 154.1 |
| More and less confident because of other people | 87.5 | 84.1 | -3.3 | 171.7 |
| Less confident because of other people | 75.1 | 75.5 | 0.3 | 150.6 |
| Making one's own decision | 76.5 | 78.7 | 2.3 | 155.2 |
| No response | 87.8 | 87.2 | -0.6 | 175.0 |

Scheffe's Test (p = .05)

| 150.6 | 154.1 | 155.2 | 171.7 | 175.0 |
|---|---|---|---|---|

Table 10

High School Students
Other People-Sexual Identy

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Other People | 3 | 881.5 | 293.8 | 3.23 | 0.02* |
| Error | 77 | 7009.5 | 91.0 | | |

Means
Sexual Identity

| | |
|---|---|
| More confident because of other people | 78.3 |
| More and less confident because of other people | 75.5 |
| Less confident because of other people | 76.8 |
| No response | 70.7 |

Scheffe's Test (p = .05)

| | | | |
|---|---|---|---|
| 70.7 | 75.5 | 76.8 | 78.3 |

Table 11

First Semester Retest College Freshmen
Other People-Conceptions About
Body and Appearance

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Other People | 3 | 3838.6 | 1279.6 | 3.93 | 0.01** |
| Error | 31 | 10102.9 | 325.9 | | |
| Time x Other People | 3 | 561.1 | 187.0 | 3.29 | 0.03* |
| Error | 31 | 1763.0 | 56.8 | | |

Means
Conceptions About Body and Appearance

| | Summer | Fall | Change | Summer & Fall |
|---|---|---|---|---|
| More confident because of other people | 64.7 | 63.4 | -1.3 | 128.1 |
| More and less confident because of other people | 61.2 | 56.5 | -4.7 | 117.8 |
| Less confident because of other people | 57.[illegible] | 46.3 | -10.8 | 103.5 |
| No response | 68.3 | 71.6 | 3.3 | 140.0 |

Scheffe's Test (p = .05)

| | | | | |
|---|---|---|---|---|
| | 103.5 | 117.8 | 128.1 | 140.0 |
| | -10.8 | -4.7 | -1.3 | 3.3 |

Table 12

Second Semester Retest College Freshmen
Other People-Conceptions About
Body and Appearance

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Other People | 4 | 3956.2 | 989.1 | 2.52 | 0.05* |
| Error | 48 | 18814.9 | 391.9 | | |
| Time x Other People | 4 | 505.2 | 126.3 | 1.95 | 0.11 |
| Error | 48 | 3113.0 | 64.8 | | |

Means
Conceptions About Body and Appearance

| | Summer | Spring | Change | Summer & Spring |
|---|---|---|---|---|
| More confident because of other people | 61.2 | 55.6 | -5.6 | 116.8 |
| More and less confident because of other people | 62.8 | 55.3 | -7.7 | 118.0 |
| Less confident because of other people | 57.6 | 46.8 | -10.8 | 104.5 |
| Making one's own decisions | 64.3 | 61.7 | -2.7 | 126.0 |
| No response | 66.7 | 65.4 | -1.3 | 132.1 |

Scheffe's Test (p = .05)

| 104.5 | 116.8 | 118.0 | 126.0 | 132.1 |
|---|---|---|---|---|

Table 13

Conversations and Experiences, Interactions

| Source | Roy's Maximum Root Criterion | θ(s, m, n) |
|---|---|---|
| | MANOVA Summary Table Fall Semester Retest | |
| Groups | 0.1962 | (3, -0.5, 20.5) |
| Time x Groups | 0.1463 | (3, -0.5, 20.5) |
| | MANOVA Summary Table Spring Semester Retest | |
| Groups | 0.0673 | (3, -0.5, 28.5) |
| Time x Groups | 0.1041 | (3, -0.5, 28.5) |
| | MANOVA Summary Table High School Students | |
| Groups | 0.1761 | (3, -0.5, 45.5)** |

**p <.01

Table 14

High School Students
Conversations and Experiences-Sexual Identity

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Conversations and Experiences | 3 | 1300.9 | 433.6 | 4.90 | 0.003* |
| Error | 95 | 8399.5 | 88.4 | | |

Means
Sexual Identity

| | |
|---|---|
| Conversations | 73.7 |
| Experiences | 82.3 |
| No response | 71.4 |
| None or Don's Know | 74.0 |

Scheffe's Test (p = .05)

71.4 73.7 74.0 82.3

Table 15

Change Over Time

| Source | Roy's Maximum Root Criterion | θ(s, m, n) |
|---|---|---|
| | MANOVA Summary Table | |
| | Fall Semester Retest | |
| Groups | 0.2871 | (3, -0.5, 22.0)* |
| Time x Groups | 0.1100 | (3, -0.5, 22.0) |
| | Spring Semester Retest | |
| Groups | 0.1145 | (3, -0.5, 32.5) |
| Time x Groups | 0.0730 | (3, -0.5, 32.5) |

*$p < .05$

Table 16

First Semester Retest College Freshmen
Change on Questionnaire-Confidence

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Between Groups | 3 | 4372.4 | 1457.5 | 3.58 | 0.02* |
| Error | 48 | 19517.6 | 406.6 | | |
| Time x Groups | 3 | 119.5 | 39.8 | 0.84 | 0.48 |
| Error | 48 | 2285.3 | 47.6 | | |

Means

| | Summer | Fall | Change | Summer & Fall |
|---|---|---|---|---|
| Have not answered the questionnaire differently | 72.6 | 73.2 | 0.6 | 145.8 |
| Left parents or home town, on one's own | 59.7 | 67.0 | 7.3 | 126.7 |
| More tolerant and open-minded of other people | 56.0 | 58.2 | 2.2 | 114.2 |
| No response | 60.2 | 62.6 | 2.3 | 122.8 |

Scheffe's Test (p = .05)

| | | | |
|---|---|---|---|
| 114.2 | 122.8 | 126.7 | 145.8 |

Table 17

First Semester Retest College Freshmen
Change on Questionnaire-Sexual Identity

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Between Groups | 3 | 3884.1 | 1294.7 | 3.11 | 0.03* |
| Error | 48 | 19973.3 | 416.1 | | |
| Time x Groups | 3 | 310.8 | 103.6 | 1.32 | 0.27 |
| Error | 48 | 3762.2 | 78.3 | | |

Means
Sexual Identity

| | Summer | Fall | Change | Summer & Fall |
|---|---|---|---|---|
| Have not answered the questionnaire differently | 86.0 | 90.4 | 4.4 | 176.3 |
| Left parents or home town, on one's own | 73.7 | 77.5 | 3.7 | 151.2 |
| More tolerant and open-minded of other people | 77.2 | 72.0 | -5.2 | 149.2 |
| No response | 75.9 | 77.4 | 1.5 | 153.3 |

Scheffe's Test (p = .05)

| | | | | |
|---|---|---|---|---|
| | 149.2 | 151.2 | 153.3 | 176.3 |

Table 18

First Semester Retest College Freshmen
Change on Questionnaire-Conceptions
About Body and Appearance

ANOVA Summary Table

| Source | df | SS | MS | F | p |
|---|---|---|---|---|---|
| Between Groups | 3 | 4372.4 | 1457.5 | 3.58 | 0.02* |
| Error | 48 | 19517.7 | 406.6 | | |
| Time x Groups | 3 | 133.0 | 44.3 | 0.63 | 0.59 |
| Error | 48 | 3366.2 | 70.1 | | |

Means
Conceptions About Body and Appearance

| | Summer | Fall | Change | Summer & Fall |
|---|---|---|---|---|
| Have not answered the questionnaire differently | 71.5 | 68.3 | -3.25 | 139.7 |
| Left parents or home town, on one's own | 52.0 | 53.0 | 1.0 | 105.0 |
| More tolerant and open-minded of other people | 59.0 | 55.0 | -4.0 | 114.0 |
| No response | 61.3 | 56.4 | -4.9 | 117.8 |
| Scheffe's Test (p = .05) | | | | |
| | 105.0 | 114.0 | 117.8 | 139.7 |